

resonating probes. Thus Examiner's citation of prior art regarding horizontal dielectric probes is inaccurate.

Regarding the Examiner's repeated citation of Cusak's publication as anticipating the present invention, we respectfully disagree: **Cusak discloses an entirely dielectric cylindrical probe**, without metal mantle between the central conductor and the ground walls; in addition Cusak's probe slides inside a cylindrical coaxial airline structure, whereas **we claim a metal-dielectric combination probe** sliding inside a slabline; at this point it seems very important to recapitulate and clarify the facts and the various techniques used and referred to in this application, by showing a cross section of all hereby discussed tuner probes (Figures i to iv):

1. Cusak discloses a horizontal wideband probe made entirely of dielectric material inserted into a slotted coaxial airline (Figure i).
2. The present invention discloses a horizontal wideband combination metallic-dielectric probe, inserted into a slabline (Figure ii).
3. Tsironis (US patent 6,297,649) discloses a vertical narrowband (resonant) contacting metallic probe (Figure iii).
4. Prior art (US patent 6,674,293 et al.) uses exclusively vertical wideband metallic probes inserted into a slabline (Figure iv).

By comparing carefully Figures i and ii to Figures i to iv below it should be obvious to a person with ordinary skill in the art, that the hereby claimed apparatus uses different kind of probes as in any previous publication. This invention does not claim proprietorship of a tuner in general, nor a translation mechanism, or a test port and an idle port, a tuner housing etc. This invention claims proprietorship of an original RF

probe structure in such tuners, which said probe structure has neither been used, nor described before.

In addition, even though we understand that the functioning of an apparatus is not sufficient ground for allowing a patent, but considering this to be important background information for the Examiner, in order to allow a better distinction of the various cases, we provide, in Figure v, typical reflection factor behavior of the probes described here.

We therefore respectfully request the Examiner to revise his decision and allow the claims of the present application.

Respectfully submitted

A handwritten signature in black ink, appearing to read 'Christos Tsironis', with a stylized flourish at the end.

Christos Tsironis

514-684-4554

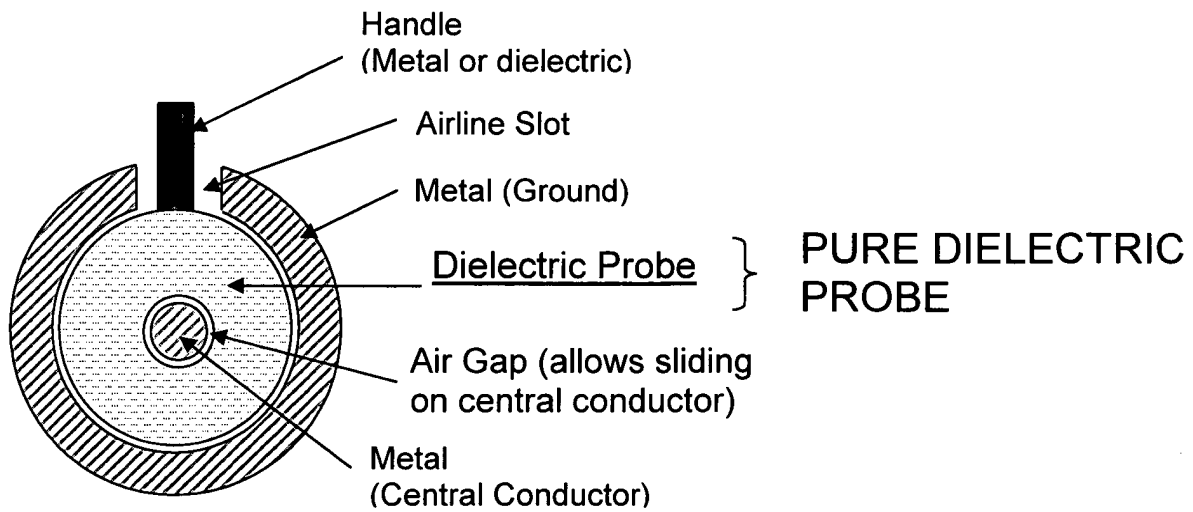


Figure i: Cusak's coaxial dielectric probe, Prior Art.

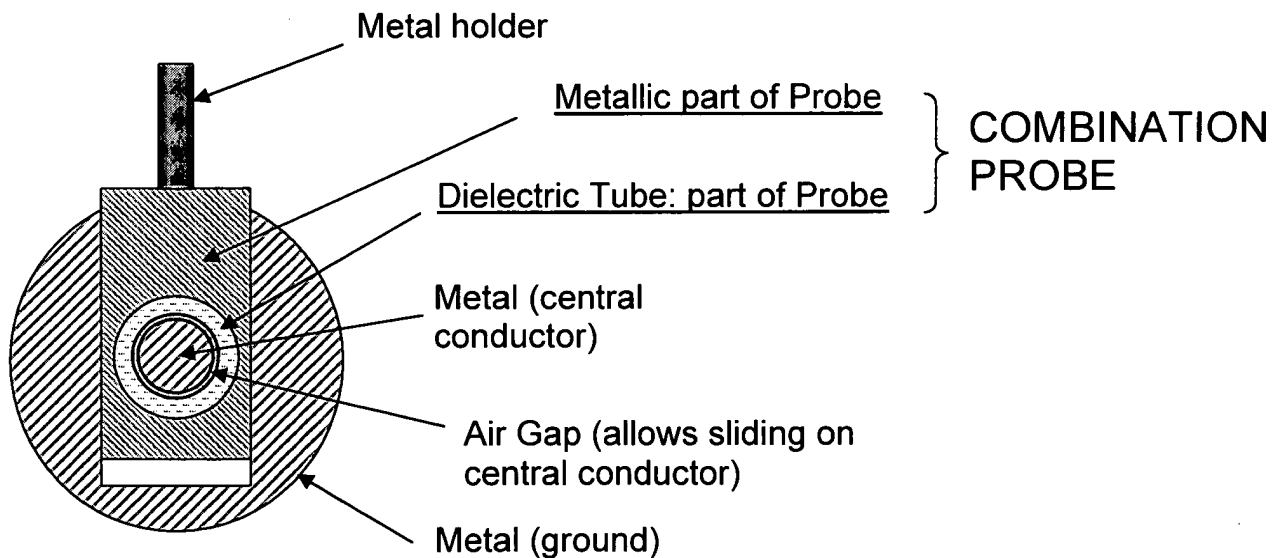


Figure ii: Combination "Metal-Dielectric" Probe (this invention)

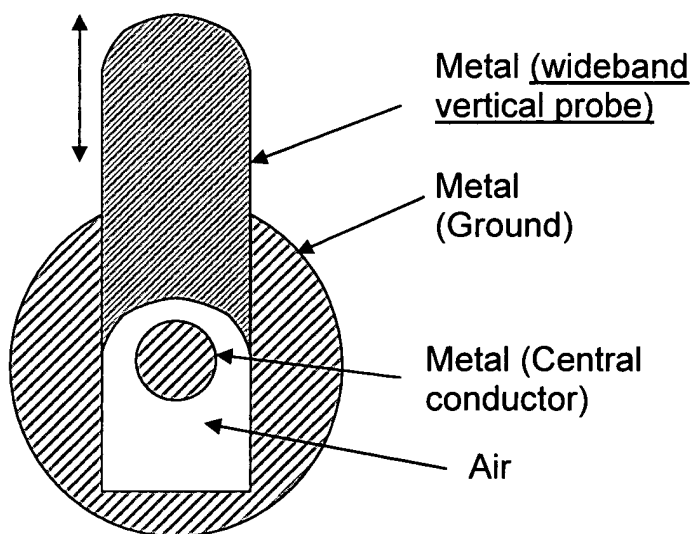


Figure iii: Prior art, in general: Wideband Vertical Metallic Probe (US patent 6,674,293)

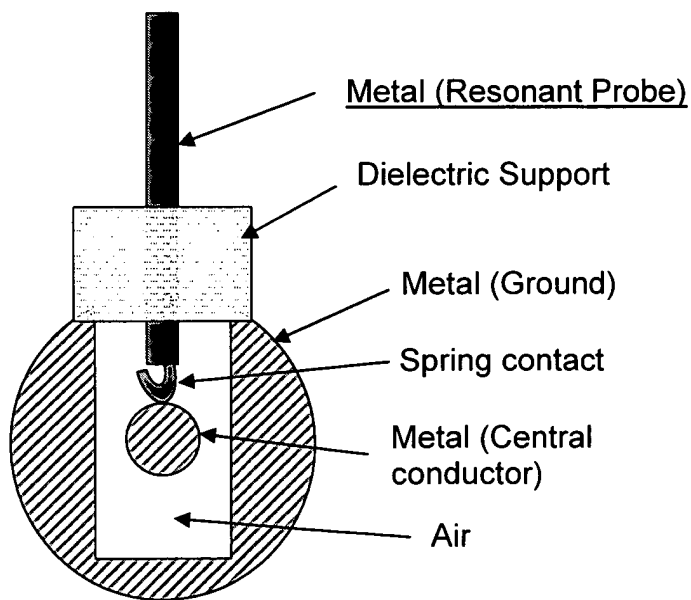


Figure iv: Tsironis' (US patent 6,297,649) Prior Art: Vertical Resonant Probe

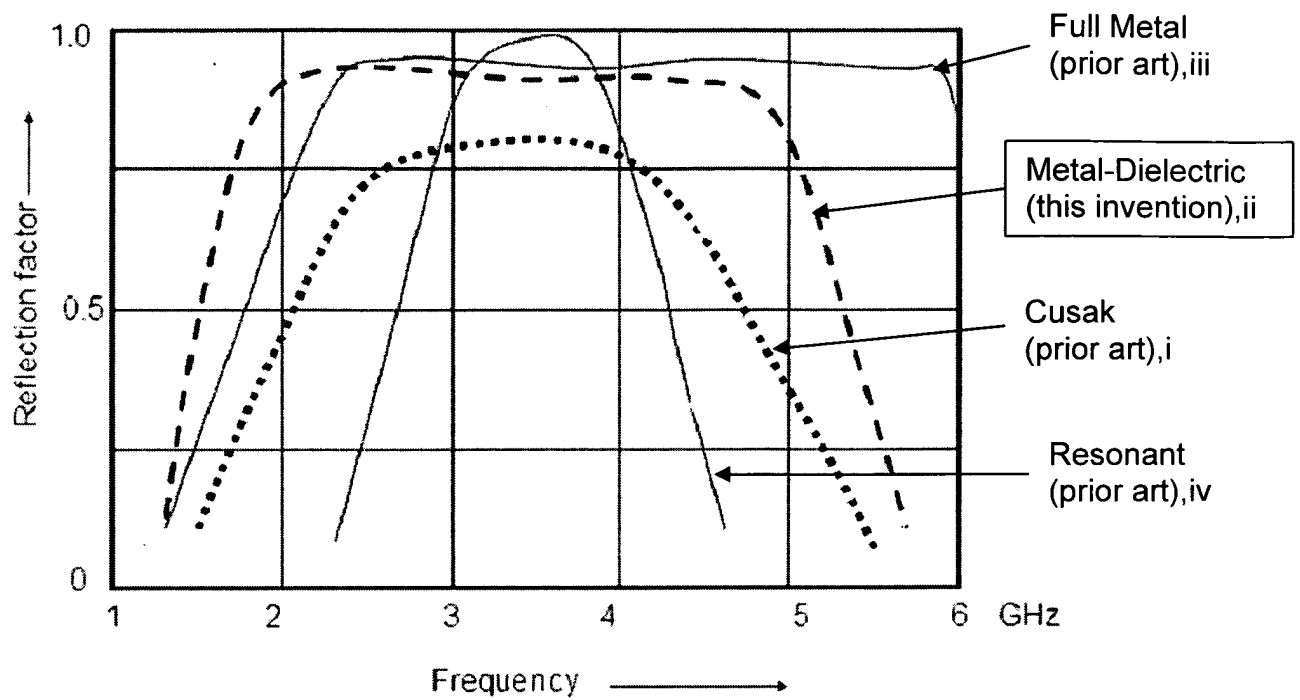


Figure v: Typical frequency response of various tuner probes